

## **IN THE CLAIMS**

Claims 1-12 (Canceled).

Claim 13 (Currently amended) Apparatus for the administration of local dental anesthesia into the interstitial dental tissue of a patient, said injection being through a hypodermic needle from which the anesthesia is forced through the tissue to a nerve site, comprising:

means for delivering the local dental anesthesia through the needle into the interstitial dental tissue; and

means for sensing at least one anesthesia pressure at the needle, and  
means for indicating at least one pre-determined pressure.

Claim 14 (Original) Apparatus according to claim 13 further comprising means for reducing the flow of anesthesia responsive to at least one pre-determined pressure.

Claims 15-24 (Canceled)

Claims 25 (Withdrawn) A method for the supervised administration of local anesthetic to a patient through a hypodermic needle, comprising the steps of:

establishing an externally powered pump driven flow of liquid local anesthetic into a patient, and providing at least two independent controls for reducing the flow of anesthetic, one control being operated by the patient

and the second by the supervisor, whereby the patient can reduce the build-up of anesthetic pressure by reducing the anesthetic flow rate.

Claim 26 (Withdrawn) A method according to claim 25, further comprising the step of causing the rate of anesthetic flow into the patient to increase gradually as a function of time.

Claim 27 (Withdrawn) A method according to claim 25, further comprising the step of causing the rate of anesthetic flow into the patient to increase continuously as a function of time.

Claim 28 (Withdrawn) A method according to claim 25, wherein the flow rate curve progressively steepens.

Claim 29 (Withdrawn) A method according to claim 25, further comprising the step of measuring the pressure of the anesthetic flowing into the patient to provide information to the supervisor as to the rate of flow of the anesthetic into the patient's tissues.

Claim 30 (Withdrawn) A method according to claim 25, further comprising the step of utilizing at least one predetermined sensed pressure of the anesthetic in the patient to reduce the rate of flow of anesthetic from the pump to provide a third control of the flow of anesthetic.

- Claim 31 (Withdrawn) A method according to claim 30, wherein said third control stops the flow of anesthetic from the pump.
- Claim 32 (Withdrawn) A method for injecting local anesthetic through a hypodermic needle into the tissues of a patient, comprising the steps of:
- coupling a powered anesthetic pump to a hypodermic needle;
  - implanting the needle in the patient at the injection site; and
  - causing the pump to deliver a gradually increasing rate of flow of anesthetic through the needle over a predetermined time interval.
- Claim 33 (Withdrawn) A method according to claim 32, wherein said rate of flow increases continuously.
- Claim 34 (Withdrawn) A method according to claim 32, in which the flow rate progressively steepens.
- Claim 35 (Withdrawn) A method according to claim 32, further comprising the steps of measuring the pressure of the anesthetic in the patient's tissues; and
- causing the flow rate from the pump into the patient to be reduced when at least one predetermined pressure is sensed.

- Claim 36 (Withdrawn) A method according to claim 35, wherein flow from the pump to the patient is stopped when at least one predetermined pressure is sensed.
- Claim 37 (Withdrawn) A method according to claim 35, further comprising the step of re-establishing the flow when the pressure of the anesthetic drops within the patient.
- Claim 38 (Withdrawn) A method according to claim 37, wherein the flow is re-established at the initial flow rate when the flow is re-established.
- Claim 39 (Withdrawn) A fluid tight coupling for joining a hollow hypodermic needle to a flexible tubular conduit comprising:
- a tip portion having forwardly convergent, internal, conical chamber open at its rearward end;
  - a hollow hypodermic needle secured at its rearward end in the top portion in fluid tight relationship and communicating with the conical chamber;
  - a conical mating portion detachably received in the conical chamber through its open end and having an axial through-bore extending rearward from its apex, said conical mating portion being formed of resilient, compressible material;

a flexible tubular conduit received in the through-bore to communicate with the rearward end of the hollow needle; and

cam means between the top portion and the conical mating portion for squeezing the tip portion radially inwardly against the conical mating portion in fluid tight relationship.

Claim 40 (Withdrawn) A fluid tight coupling according to claim 39, said cam means also squeezing the conical mating portion radially inwardly against the flexible tubular conduit.

Claim 41 (Withdrawn) A fluid tight coupling according to claim 40, comprising circumferential ribs in the through-bore and on the matable conical surfaces to augment the fluid tight seal.

Claim 42 (Withdrawn) A fluid tight coupling according to claim 41, wherein said ribs on the matable conical surfaces comprise a convexly rounded surface on the conical mating portion.

Claim 43 (Withdrawn) A fluid tight coupling according to claim 39, wherein said squeezing means comprises a rearwardly converging camming surface on the conical mating portion, rib means on the tip portion for engaging the camming surface and a recess in the conical mating portion to receive the engaging means in locking relationship.

- Claim 44 (Withdrawn) A fluid tight coupling according to claim 39, further comprising an axially rearwardly extending portion on said conical mating portion to form a handle.
- Claim 45 (Withdrawn) A fluid tight conduit assembly comprising a first fluid tight coupling as set forth in claim 36 at one end of the said flexible tubular conduit, a substantially identical second fluid tight coupling at the other end of the flexible tubular conduit, and an elongated handle portion on said first fluid tight coupling, whereby the needle on the first coupling is adapted to penetrate tissue of a patient and the needle on the second coupling is adapted to penetrate a reservoir of liquid anesthetic.
- Claim 46 (Withdrawn) An anesthetic delivery system including the fluid tight conduit assembly as set forth in claim 45 comprising, anesthetic delivery means for pumping anesthetic from a reservoir in the form of a vial having a penetrable seal at one end, a first carriage for receiving the vial and a second carriage for receiving said second fluid tight coupling of the conduit assembly, and control means for establishing relative movement between the carriages to cause the needle of the fluid tight coupling to penetrate the vial.

- Claim 47 (New) A method for delivering local dental anesthesia utilizing an injection through a hypodermic needle from which the anesthesia is forced comprising the steps of:
- delivering local dental anesthesia through a hypodermic needle into interstitial dental tissue; and
- sensing the pressure of the anesthesia at the needle during the injection.
- Claim 48 (New) A method for delivering dental anesthesia according to claim 47 further comprising the step of providing a discernable indication of at least one predetermined pressure to the administrator of the injection.
- Claim 49 (New) A method for delivering dental anesthesia according to claim 47 further comprising the step of reducing the flow of anesthesia if said sensed pressure is greater than some predetermined pressure.
- Claim 50 (New) A method for delivering dental anesthesia according to claim 49 further comprising the step of stopping the flow of anesthesia if said sensed pressure is greater than some predetermined pressure.
- Claim 51 (New) A method for delivering dental anesthesia according to claim 47 further comprising the step of stopping the flow of anesthesia if said sensed pressure is less than some predetermined pressure.

Claim 52 (New) A method for delivering dental anesthesia according to claim 47 further comprising the step of reducing the flow of anesthesia if said sensed pressure is less than some predetermined pressure.